

Date: Thu, 7 Jul 94 04:30:23 PDT  
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>  
Errors-To: Ham-Homebrew-Errors@UCSD.Edu  
Reply-To: Ham-Homebrew@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Homebrew Digest V94 #185  
To: Ham-Homebrew

Ham-Homebrew Digest                      Thu, 7 Jul 94                      Volume 94 : Issue 185

Today's Topics:

ACS (Al's Circuit Simulator) version 0.14 is available  
    Adding VOX to an HT mic.  
        AM Transmitter  
    Converting Tempo/Yaesu hf to 6m, Possible?  
        Decoding time data from WWVB  
    RF Feedback in Mic while talking and touching mic.  
        Satellite fax to HF fax converter  
            Timewave DSP  
            Voice IDer

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>  
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Wed, 6 Jul 1994 03:34:09 GMT  
From: galileo.cc.rochester.edu!ee.rochester.edu!atd.rochester.ny.us!  
al@cs.rochester.edu  
Subject: ACS (Al's Circuit Simulator) version 0.14 is available  
To: ham-homebrew@ucsd.edu

A new version of ACS (Al's Circuit Simulator) has been posted to  
alt.sources. It is also available by ftp from cs.rit.edu or  
ee.rochester.edu. (in pub/acs). If you don't have net access you  
can get it by dial-up from (USA) 716-272-1645.

ACS is a general purpose circuit simulator. It performs nonlinear  
dc and transient analyses, fourier analysis, and ac analysis  
linearized at an operating point. It is fully interactive and

command driven. It can also be run in batch mode or as a server. The output is produced as it simulates. Spice compatible models for the MOSFET (level 1 and 2) and diode are included in this release.

This version (0.14) includes several improvements including convergence improvements, a new "alarm" command, and significant bug fixes in time step control. There are other minor improvements.

Since it is fully interactive, it is possible to make changes and re-simulate quickly. The interactive design makes it well suited to the typical iterative design process used in optimizing a circuit design. It is also well suited to undergraduate teaching where Spice in batch mode can be quite intimidating. This version, while still officially in beta test, should be stable enough for basic undergraduate teaching and courses in MOS design, but not for bipolar design.

In batch mode it is mostly Spice compatible, so it is often possible to use the same file for both ACS and Spice.

The analog simulation is based on traditional nodal analysis with iteration by Newton's method and LU decomposition. An event queue and incremental matrix update speed up the solution for large circuits.

It also has digital devices for mixed signal simulation. The digital devices may be implemented as either analog subcircuits or as true digital models. The simulator will automatically determine which to use. Networks of digital devices are simulated as digital, with no conversions to analog between gates. This results in digital circuits being simulated faster than on a typical analog simulator, even with behavioral models. The digital mode is experimental and needs work. There will be substantial improvements in future releases.

ACS also has a simple behavioral modeling language that allows simple behavioral descriptions of most components including capacitors and inductors. Unfortunately, it is not well documented.

ACS uses an object oriented approach to modeling. Complex models like MOSFETS are made of simpler ones like resistors, capacitors, diodes, and any other models that may already exist. The model designer does not need to worry about details like convergence checking, bypass checking, integration, or how the new device plugs into the solution matrix because these are already taken care of by the basic models. This results in a dramatic improvement in the time it takes a researcher or model designer to install a new

model, compared to Spice.

The source and documentation can be obtained by anonymous ftp from ee.rochester.edu or cs.rit.edu in /pub/acs. It can also be obtained by dial-up (USA) 716-272-1645 in /pub/acs. It may be distributed under the terms of the GNU general public license. The dial-up also has some test circuits, pre-compiled executables for Next, Sun4, MSDOS and possibly others, and documentation in dvi and postscript.

If you are tired of Spice and want a second opinion, you want to play with the circuit and want a simulator that is interactive, or you want to study the source code and want something easier to follow than Spice, try ACS.

ACS is an ongoing research project. It is being released in a preliminary phase in hopes that it will be useful and that others will use it as a thrust or base for their research. I also hope for some comments that may help me direct my research.

Albert Davis, 136 Doncaster Rd., Rochester, NY 14623.  
email: al@atd.rochester.ny.us, atd@cs.rit.edu, or davis@ee.rochester.edu  
fax: 716-272-1645

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Date: Thu, 7 Jul 1994 02:39:24 GMT  
From: ihnp4.ucsd.edu!swrinde!gatech!usenet.ins.cwru.edu!news.ecn.bgu.edu!feenix.metronet.com!dismondo@network.ucsd.edu  
Subject: Adding VOX to an HT mic.  
To: ham-homebrew@ucsd.edu

What is the best way to add VOX to an HT ? I have a throat mic for my HT that I use to go riding ( bicycles ) and I have to keep taking my hand off the bars to press the PTT button. I purchased a VOX kit only to find out that it requires an external 9v power source. The extra battery pack for the VOX circuit makes it some what impractical ( the radio is big enough the cause some minor placement problems already ). Does any one know a better way ? I am using a kenwood 78A with the Genesys t-05 throat mic.

dismondo.

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Date: 6 Jul 1994 23:24:50 -0700  
From: ihnp4.ucsd.edu!usc!cs.utexas.edu!convex!news.onramp.net!news.sprintlink.net!news.world.net!news.teleport.com!news.teleport.com!not-for-mail@network.ucsd.edu  
Subject: AM Transmitter

To: ham-homebrew@ucsd.edu

ALL-A-N Carhart (acarhart@netcom.com) wrote:

:Where might I find a make-your-own-AM-transmitter kit?

:If it is low enough power, the FCC allows transmissions on the AM band, correct?

: Why not hook up a CD player (or tape player or even FM radio) to a transmitter

: with the power to only go a few feet...

I hesitate to even utter the name in an amateur radio group, but you will find relevant discussions in alt.radio.pirate. The thread "Transmitter Kit Sources FAQ" mentions a number of sources for cheap (\$30) micro-power FM stereo and AM transmitter kits including Ramsey Electronics (Victor NY), DC Electronics (Scottsdale AZ), and Panaxis Productions (Paradise CA). I have no idea if they are any good. Also threads on what's allowed under FCC rules.

FM radio would be a better bet for listening to CD's in your car, with an audio bandwidth of ~15Khz vs the ~5Khz of AM radio (plus you get stereo). Might be worth replacing the AM radio with a junkyard AM/FM one (~\$10?).

Trashing some other guy's reception as you roll by can be avoided by carefully choosing an unoccupied channel. On FM, you could verify the channel is still unoccupied every 50 miles or so by briefly turning off your transmitter. Perhaps the transmitter could take it's power from the CD's motor circuit, and thus automatically shut off after each CD? Propagation of AM signals is less predictable, and at night you may occasionally find your radio howling due to interference from stations a thousand miles away.

These interference issues could be avoided entirely by pulling the coaxial plug at the radio that runs to the antenna, and inserting your own plug with coax running to the transmitter (could add some switching arrangement, and may need to attenuate the transmitted signal).

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jerryg@teleport.com     Jerry Gaffke     Portland Oregon USA

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Date: Wed, 6 Jul 1994 13:39:23 GMT

From: ihnp4.ucsd.edu!swrinde!emory!europa.eng.gtefsd.com!uhog.mit.edu!

nnntp.club.cc.cmu.edu!cantaloupe.srv.cs.cmu.edu!dolphin!ed@network.ucsd.edu

Subject: Converting Tempo/Yaesu hf to 6m, Possible?

To: ham-homebrew@ucsd.edu

Are there plans to convert Tempo/Yaesu hf rigs to 6m operation?

Is it worth doing this? Is anybody on 6m?

I know that there are transvertors to do this, but this rig can put out 100w or so, and I don't want to have to attenuate the output & then reamplify the rf back to 100 or so watts.

I am not afraid to get inside and make modifications to the rig.  
(even if permanent)

This is a 95% tube rig.

Ideas, Thoughts, comments, snyde remarks?

Ed N3SD0  
Ed@fore.com

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Date: Wed, 06 Jul 94 20:38:44 CST  
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!iat.holonet.net!vulcan!  
gary@network.ucsd.edu  
Subject: Decoding time data from WWVB  
To: ham-homebrew@ucsd.edu

Hi:

Is anyone out there automatically decoding time data from WWVB (60 kHz) ?  
I have built the 60 kHz receiver from the articles in 73 magazine earlier  
this year, and have tried to detect the encoded time data.  
Unfortunately, the noise level seems to be much greater than the signal ?  
I was wondering if there was anyone out there that was doing this  
already, and if so, would they care to exchange email messages.

Thank you  
Gary Tennyson  
K04CY  
gary@vulcan.com

Gary Tennyson  
gary@vulcan.com

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Date: Wed, 6 Jul 1994 12:38:43 GMT  
From: cantaloupe.srv.cs.cmu.edu!dolphin!ed@cs.rochester.edu  
Subject: RF Feedback in Mic while talking and touching mic.  
To: ham-homebrew@ucsd.edu

>I have a RCI 2950 with a Texas Star DX 667V amplifier'  
>and a cheap Mag-mount base with a base loaded antenna with about  
>a 3.5" whip on top.

Ok, You are probably getting rf everywhere! Do you mean a 3.5 foot antenna, or a 3.5 inch antenna? You say its a magnet mount, you DEFINATELY need a solid ground!!! I have had problems with cb & 2m magnet antennas getting sufficient ground. I have heard of others that tried magnets for hf mobile, with "hot" microphone results.

I am assuming that you are running inside a house since you are using an amp.

I am not experienced with hf transmitting, Im just a no code tech that hacked cb & swl for a few years and recently jumped in head first. I expect that a longer whip and solid electrical ground to waterpipes, heating radiators, I even expect that metal forced air heating ducts might make an improved rf ground indoors.

My 2 cents, hope its useful  
Ed N3SD0

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Date: Wed, 6 Jul 1994 17:06:18 GMT  
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!  
newsxfer.itd.umich.edu!nntp.cs.ubc.ca!unixg.ubc.ca!quartz.ucs.ualberta.ca!  
gov.nt.ca!ve8ev@network.ucsd.edu  
Subject: Satellite fax to HF fax converter  
To: ham-homebrew@ucsd.edu

Has anyone ever built a converter to change the AM wefax from NOAA satellites to FM wefax for reception with an HF fax demodulator? Is it possible? I'd like to be able to receive satellite photos direct from the satellites but don't want to spend another \$XXX to buy a satellite wefax demodulator. I've found that by carefully tuning the signal from the satellite in SSB with a very narrow bandwidth I can copy the pictures a little bit but doppler shift makes this process very difficult. It would be much easier to receive the signal in FM from the satellite and convert the audio tone's amplitude modulations to frequency modulation and feed it to my HFFAX demodulator.

Alternately, is there software available to do the same thing with a simple interface?

Thanks,  
John - VE8EV

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John Boudreau VE8EV                    INTERNET: ve8ev@amsat.org  
Inuvik, NWT, CANADA                    PACKET: VE8EV@KL7GNG.#NAK.AK.USA.NA

Date: 6 Jul 1994 16:42:09 GMT  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!noc.near.net!sunfish.hi.com!  
brainiac.hi.com!user@network.ucsd.edu  
Subject: Timewave DSP  
To: ham-homebrew@ucsd.edu

Do the Timewave DSP's use an algorithm similar to the one described by W9GR in QEX (LMS adaptive filter using short-delay time-shifted input), or is there more to the Timewave noise reduction algorithm?

How about the JPS units - anyone know the algorithms used for white noise reduction and pink noise reduction?

Steve Byan	internet: steve@hi.com
Hitachi Computer Products (America), Inc.	
1601 Trapelo Road	phone: (617) 890-0444
Waltham, MA 02154	FAX: (617) 890-4998

Date: 7 Jul 94 00:57:38 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Voice IDer  
To: ham-homebrew@ucsd.edu

Hi All,

Has anybody used one of those Hallmark greeting cards with the voice synthesizer, as a voice id'er for a repeater?

If so, what kind of circuit did you end up with? I am using a 555 timer, but am having trouble linking it to the repeater (Kenwood).

Any ideas would be greatly appreciated. A schematic would be even better, and would be shared with others who find this idea interesting.

TNX 73 de KB0LRB Lynn Geitgey  
 geitgey@ukanvm.cc.ukans.edu

Date: 6 Jul 1994 15:29:43 GMT

From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!gatech!ncar!ren@network.ucsd.edu  
To: ham-homebrew@ucsd.edu

References <acarhartCs81MH.2nv@netcom.com>, <acarhartCs9vFq.Joz@netcom.com>,  
<2v401p\$dlv@gort.oit.umass.edu>  
Subject : Re: AM Transmitter

Although this is a 'homebrew' newsgroup, I also wanted to post this 'solution' (which I emailed the original poster).

A simple and relatively inexpensive route would be for him to buy an FM Converter for his AM radio. I owned one for several years, and it served me well. It only cost around \$16, and was easy to install. With it he can still use the CD adapter.

Now this might bring up questions of fidelity but remember the end processor is an AM radio, with its possible narrow bandwidth.  
ren NOPVI  
dona nobis pacem

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End of Ham-Homebrew Digest V94 #185  
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